

$$f = \frac{1}{2} f_s \leftrightarrow \omega = \pi$$

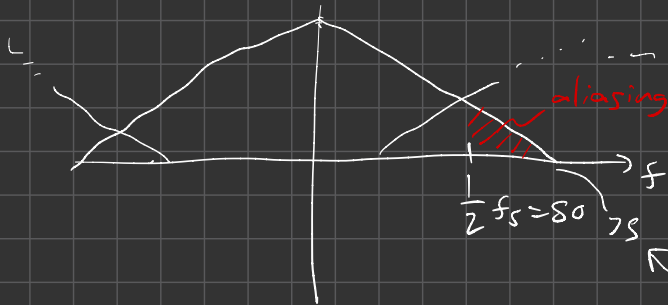
$$\frac{1}{2T} \leftrightarrow \omega = \pi$$

Sampling Scratch

Nyquist: $\frac{1}{2T} \geq f_{\max}$

$$\frac{1}{T} \geq 2f_{\max} \rightarrow T \leq \frac{1}{2f_{\max}} \rightarrow \text{max value: } T = \frac{1}{2f_{\max}}$$

Ex: Regular Aliasing



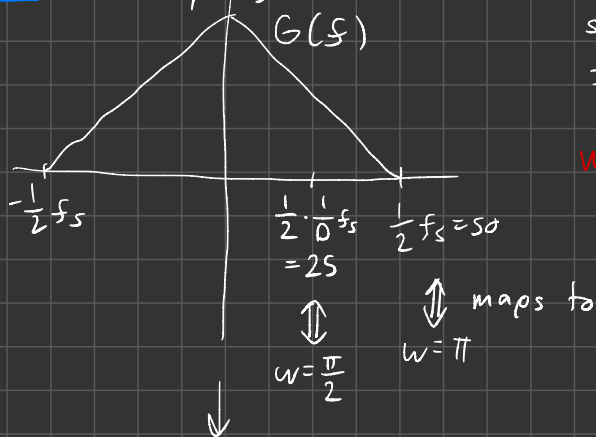
sampling frequency

$$f_s = \frac{1}{T_s} = 100 \text{ Hz}$$

max allowable frequency
in signal: 50 Hz

if $f = 75 \text{ Hz}$

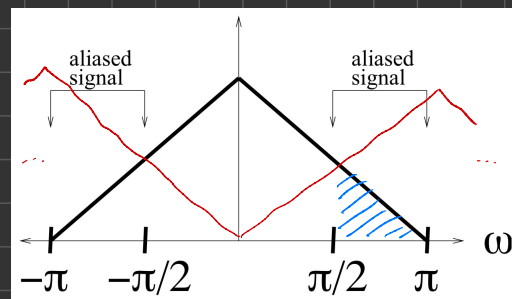
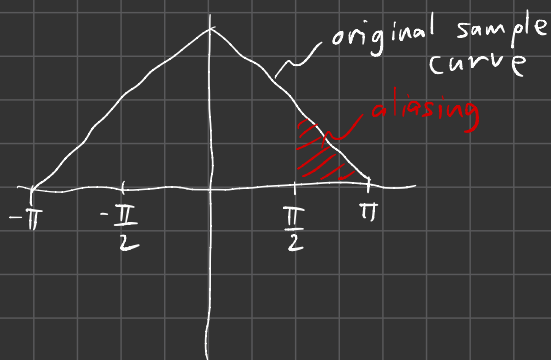
Ex: Subsampling



sampled at 100 Hz

f_{\max} was 50 Hz, no aliasing

wanted to only sample at
50 Hz \rightarrow subsample by 2 = D



original: 2π periodic

Modified: $\frac{2\pi}{D}$ periodic ???

on same scale??